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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/961,425	09/25/2001	Akio Nakashima	2165.11	6616

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NEW YORK, NY 10112

EXAMINER

DICUS, TAMRA

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 11/20/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/961,425

Applicant(s)

NAKASHIMA ET AL.

Examiner

Tamra L. Dicus

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-- Th MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 4 depends upon instant claim 1. Claim 1 never mentions a first colored layer, thereby it is not clear as to how one would have a second colored layer.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 1-9 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 6,228,804 to Nakashima.

Nakashima teaches various multilayered structures of color-changing materials.

Nakashima's color-changing materials are functional equivalents to a water-

metachromatic laminate as the color-changing material of Nakashima is brought into

contact with water at col. 16, lines 25-60. The features of the invention of Nakashima

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reside in that a thermochromic layer is formed on a substrate (support) and a porous layer containing a low-refractive-index pigment (porous resin layer) is superposed on each other, a color-change material/layer (first colored layer) is provided on the thermochromic layer and substrate. Nakashima features various structural arrangements and teaches various functionalities for such a thermochromatic/water-metachromatic laminate. A thermochromic image pattern layer (colored layer) may be formed on the thermochromatic/porous resin layer, a porous image pattern layer (water-repellent resin layer) may be formed on the thermochromic layer, and either a thermochromic layer and/or a porous layer are suitable as an image pattern layer which may overly the color-changing layer. This teaching therefore provides use of a second colored layer as in instant claim 4. Nakashima teaches image pattern layer may comprise a star pattern (col. 21, line 20), and may be a variety of designs/patterns/symbols/figures/dots. All indicia and images of claims 2 and 5 are therefore taught. Nakashima teaches an effective substrate of cloths such as woven fabrics, knit fabrics, braiding, and nonwoven fabrics, papers etc. The pigments comprises urethane and silicic acid (instant claim 6). See Examples 5 and 16, col. 4, lines 14-68, col. 8, line 65-col. 9, line 2, col. 10, lines 1-50, Figure 5, and col. 11, lines 10-15. The characteristics of the laminate are taught in all the examples, see 3 and 4. At col. 6, lines 8-11, the porous resin layer is added from 1 to 30 g/m². The cloth being water-repellent is inherent as the same materials are used and are functional equivalents since the cloth is used in the same way (instant claim 9). Additionally regarding the use of a second color layer, mere duplication of parts is not germane to patentability, especially since Nakashima teaches the compatibility of the layers.

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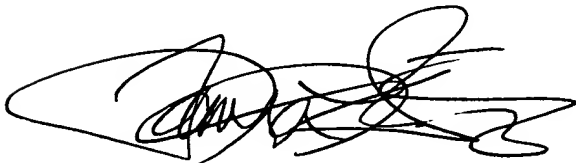
Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN 4,028,118 to Norikazu et al. teaches thermochromic materials and inks for printing. USPN 6,468,088 to Katsuyuki et al. Teaches the material made into a toy. USPN 5,879,443 to Senga et al. teaches metachromatic compositions.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamra L. Dicus whose telephone number is (703) 305-3809. The examiner can normally be reached on Monday-Friday, 7:00-4:30 p.m., alternate Fridays.

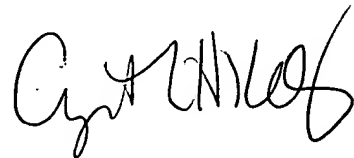
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on (703) 308-0449. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-8329 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Tamra L. Dicus
Examiner
Art Unit 1774

CYNTHIA H. KELLY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700



November 13, 2002